

Digitization of work processes using wearable wireless devices capable of vocal command recognition in noisy environments

Abstract

In an information processing system having an equipment controller for enabling the digitization of complex work processes conducted during testing and/or operation of machinery and equipment, a local wireless communications network is implemented using at least one fixed point wireless communications access station and one or more voice-responsive wireless mobile computing/communications devices that are capable of accurate vocal command recognition in noisy industrial environments. The computing/communications device determines spectral characteristics of ambient non-speech background noises and provides active noise cancellation through the use of a directional microphone and an adaptive noise tracking and subtraction process. The device is carried by a user and is responsive to one or more vocal utterances of the user for communicating data to the infor-

mation processing system and/or generating operational control commands to provide to the equipment controller for controlling the machinery or equipment.